Amendments to Specification by Replacement Paragraphs Filed 07/06/06 with Rule 312 Amendment Responsive to Notice of Allowance and Fees Due mailed by Examiner on 04/07/2006 in Patent Application No. 10/619,376

1) Please replace paragraph 68 in the specification as filed with the paragraph below:

[068] As is known in the art, germanium raises the index of refraction of a silica host glass and fluorine lowers the index of refraction of a silica host glass. Germanium is also known to be photosensitive. To enhance ~~photosensitvity~~ photosensitivity of the fiber, it can be desirable to incorporate as much germanium as possible into the region of the fiber that is to be rendered photosensitive, e.g., the core. However, a large concentration, desirable for photosensitivity, may raise the index of refraction such that it may be detrimental in certain circumstances. For example, a fiber having a core having a large index of refraction relative to the cladding will have a large numerical aperture. Such a fiber is lossy and does not efficiently transfer light with other optical devices. Accordingly, in one practice of the invention, a material is added that has the opposite effect on the index of refraction, such that more of the photosensitive material, such as germanium, may be added.

2) Please replace paragraph 127 in the specification as filed with the paragraph below:

[127] Unfortunately, it can be difficult and time-consuming to introduce a non-circularity to a region of an optical fiber. For example, creating a non-circular inner cladding can require grinding the ~~perform~~ preform (a cylindrical member from which the optical fiber is drawn) to the desired shape prior to drawing the fiber from the preform, as well as careful control of the draw parameters (e.g., temperature) so as to preserve the shape as the glass melts in the draw furnace. Often the fiber must be drawn at a reduced temperature to prevent glass flow which, due to the natural surface tension of the glass, tends to return the ground shape to a circular shape. Fiber drawn at a lower temperature can be of inferior quality having, for example, a lower tensile strength.

3) Please replace paragraph 133 in the specification as filed with the paragraph below:

[133] According to another aspect of the invention, a fiber, such as, for example, the fiber described above, can comprise a core having a fundamental mode having a selected (e.g., enlarged) mode field area. An enlarged mode field area can help the fiber more readily handle high power, such as by delaying the onset of nonlinearities such as stimulated ~~Brillioun~~ Brillouin scattering (SBS) and stimulated Raman scattering (SRS). In one embodiment of the invention, an optical fiber comprises a fundamental (i.e., lowest order) mode having a mode field area (at wavelength that is less than 2000 nm) that is at least 20 microns. In another embodiment, the mode field area is at least 30 microns or even greater than or equal to 100 microns. More specific examples are given below.

4) Please replace paragraph 143 in the specification as filed with the paragraph below:

[143] One technique found useful by the present Applicants for providing an optical fiber involves providing an axially extending preform member that comprises a core region and a cladding region and drilling axially extending circular holes, such via an ultrasonic technique, through the preform member. Circular stress rods, which will be drawn into the stress inducing regions **542**, are fabricated separately and inserted into the drilled holes to form a preform assembly that can be drawn into a PM DC fiber, with the second cladding being added to the drawn fiber as a low index polymer coating. If it is desired that the second cladding **538** comprises a glass, the ~~perform~~ preform assembly can be upjacketed with a suitable substrate tube to prior to being drawn. In general, see U.S. Patent 4,561,871, entitled "Method of Making Polarization Preserving Optical Fiber", which describes a similar technique. It can be advantageous to "pre-gob" the preform assembly prior to drawing the optical fiber therefrom. In light of the considerable knowledge in the art regarding fabricating stress inducing regions **542** and polarization-maintaining fibers, additional detail is not provided here.

5) Please replace paragraph 155 in the specification as filed with the paragraph below:

[155] A general overview of the various techniques that can be employed to fabricate a fiber according to the invention is now presented. As is well understood by those of ordinary skill in the art, one technique for fabricating an optical fiber includes first making a preform and drawing the optical fiber from the preform. The ~~perform~~ preform can be made in parts (e.g., core members, cladding member, longitudinally extending members, and the like, as noted above). A preform is a member (typically a cylinder) that can be heated at one end so as to cause the glass to flow such that it can be drawn, or pulled, into an optical fiber. The optical preform is typically a scaled up model of the optical fiber, and includes a core and cladding which become the core and cladding, respectively, of the resultant drawn optical fiber. Considerable care is taken in fabricating the preform to the ensure that the relative dimensions of the core and cladding, as well as the composition of the core and cladding, correspond to the desired dimensions and corresponding composition of the optical fiber to be drawn from the preform.

6) Please replace paragraph 160 in the specification as filed with the paragraph below:

[160] Aerosol techniques are also known in the art and may be ~~suitbable~~ suitable for practicing the present invention.